# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# **Reclamation District No. 0001 Union Island**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start		Rating **	М	Issue No.		6	
LM End		Issue Type +	Ма	Location *	ion * N/A		
Category	Earthen L	evee		GPS La	atitud	le/Longitude	
Calegory				Start		End	
Item	Flood Preparedness & Training				0		0
item					0		0
DWR ID DWR_RD0001_01_s _ 2013_6							
		Comn	nent Cod	le			
		Inspecto	or Comm	ent			
The LMA has not attended a flood fight training class in the past few years. They do have an emergency plan.							

No Photos

LM Start		Rating **	Α	Issue No.		8	
LM End		Issue Type +	Ma	Location *		N/A	
Category Earthen Levee				GPS La	atitud	e/Longitude	
Calegory				Start		End	
Item		cy Supplies &			0		-
пеш	Equipmer		0		-		
DWR ID	DWR_RD0	001_01_s _ 201	3_8				
		Comn	ant Car	10			

No Photos

Inspector Comment

The LMA has emergency supplies on-site.

LM Start		Rating **	Α	Issue No.		9		
LM End		Issue Type +	Ma	Location * N/A				
Category	GPS Latitude/Longitude							
Category	Category					End		
ltem	Operations & Maintenance				0		0	
пеш	Manuals				0		0	
DWR ID	DWR_RD0	001_01_s _ 201	3_9					
		Comn	nent Cod	de				
	Inspector Comment							
The LMA h	The LMA has a copy of the O&M Manual available at the office.							

No Photos

# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	0.00	Rating **	U	Issue No.		13	
LM End	1.14	Issue Type +	Ma	Location *	LS		
Category Earthen Levee				GPS Latitude/Longitude			
Category				Start		End	
Item	Vegetation			37.8225	80°	37.811714°	
Rem				-121.375545 °		-121.384876°	
DWR ID	DWR ID DWR_RD0001_01_f _ 2018_13						
		Comn	nent Cod	de			
V2 : Remo	ve the wild	d growth other	than na	tive grasse	s fro	m the levee	
	Inspector Comment						



Looking southwest at typical view of landward slope.

LM Start	0.00	Rating **	U	Issue No.		20	
LM End	1.14	Issue Type +	Issue Type + Ma			WS	
Category	Earthen L	evee		GPS Latitude/Longitude			
Calegory				Start		End	
Item	Vegetatio	n		37.8225	85 °	37.811714°	
пеш				-121.3755	32°	-121.384876°	
DWR ID	DWR_RD0	001_01_f _ 201	8_20			·	

### Comment Code

V2 : Remove the wild growth other than native grasses from the levee slopes.

## Inspector Comment



Looking east at typical view of waterward slope.

No Photos

LM Start	0.03	Rating **	M	Issue No.		16		
LM End	0.03	Issue Type +	Ma	Location *		LS		
Category	Earthen L	evee		GPS Latitude/Longitude				
Calegory				Start		End		
Trim / Thin Trees			37.822390°		37.822390	0		
item				-121.3760	84°	-121.376084	0	
DWR ID	DWR_RD0	001_01_s _ 201	8_16					
	Comment Code							
T1: Trim t	1 : Trim trees to at least five feet above ground level.							

Inspector Comment

37.822390 ° 37.822390 °

\* Location
LS: Land Side N/A: Not Applicable
WS: Water Side
CR: Crown

\*\* Rating
A: Acceptable N: Not Inspected/Rated
M: Not Inspected/Rated
M: Maintenance Deficiancy
M: Maintenance Deficiancy
Ob: Design & System Obsolescence
En: Enforcement

# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# **Reclamation District No. 0001 Union Island**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	0.17	Rating **	N	Issue No.	12		
LM End	0.17	Issue Type +	Ма	Location *	WS		
0-1	Earthen L	evee		GPS Latitude/Longitude			
Category	Category					End	
Item	Trim / Thi	rim / Thin Trees			76°	37.821376°	
item				-121.378044°		° -121.378044°	
DWR ID DWR_RD0001_01_s _ 2014_12							
		Comn	nent Cod	de			
T5 : Tree s	stumps.						
Inspector Comment							
Remove stump when it becomes rotted to prevent possible seepage path along the roots.							



View of the tree stump on the waterside levee slope.

LM Start	0.21	Rating **	М	Issue No.		18		
LM End	0.21	Issue Type +	Ma	Location *		LS		
Category Earthen Levee				GPS Latitude/Longitude				
Category				Start		End		
ltom	Erosion /	Bank Caving		37.8208	06 °	37.820806°		
Item				-121.3782	60°	-121.378260 °		
DWR ID DWR_RD0001_01_s _ 2017_18								
	Comment Code							

Comment Code

E2 : Schedule repair of erosion site prior to the next inspection.

Inspector Comment



View of the erosion on the levee slope.

# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	0.31	Rating **	М	Issue No.		11	
LM End	0.33	Issue Type +	Ма	Location *			
Category	ental	GPS Latitude/Longitude					
Calegory	Category					End	
Item	2017 Stor	m Damage		37.82030	0°	37.820200°	
пеш				-121.37950	0°	-121.379800°	
DWR ID	DWR ID DWR_RD0001_01_f _ 2017_11						
	Comment Code						

## Inspector Comment

Levee Evaluation Comments

Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.

Site ID No:496

Site Designation:LMA-402 Repair Type: Erosion Rating:Area of Concern Field Date:8/18/2017

Notes: Start of outside bend. Minor toe erosion has displaced riprap.

LM Start	0.31	Rating **	М	Issue No.	11 (cont)
LM End	0.33	Issue Type +	Ma	Location *	



Photo 2 of 3: LEVAL\_FA\_2018\_496\_4371.jpg



# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

## Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	0.31	Rating **	М	Issue No.		11 (cont)	
LM End	0.33	Issue Type +	Ма	Location *			
Category	ental	GPS Latitude/Longitude					
Calegory			Start			End	
Item	2017 Stor	m Damage		37.82030	0°	37.820200°	
пеш				-121.37950	0°	-121.379800°	
DWR ID DWR_RD0001_01_f _ 2017_11							
	Comment Code						

#### Inspector Comment

Levee Evaluation Comments

Description:Slope protection repairs are needed along the waterside slope due to erosion and riprap displacement from high water. Based upon levee inspections, it was determined the waterside levee slope is eroding, deteriorating, and degrading. The eroded levee sections need to be restored back to design standards to prevent further deterioration and damage.

Site ID No:496

Site Designation:LMA-402 Repair Type: Erosion Rating:Area of Concern Field Date:8/18/2017

Notes: Start of outside bend. Minor toe erosion has displaced riprap.



LM Start	0.44	Rating **	U	Issue No.		14	
LM End	0.44	Issue Type +	Ma	Location *	LS		
Category Earthen Levee				GPS La	titud	e/Longitude	
Calegory				Start		End	
Item	Animal Co	ontrol		37.8188	98°	37.818898	0
пеш				-121.3803	32 °	-121.380332	0
DWR ID	DWR_RD0	001_01_s _ 201	6_14				
		<b>^</b>		1 -			

#### Comment Code

A1: Exterminate rodents and backfill and compact or grout burrows.

## Inspector Comment

Active rodent den a size of a coyote or fox.

## Photo 1 of 1: FA\_2018\_RD0001\_23\_14\_20180906\_00011.jpg



View of the large rodent hole on the landside levee slope.

# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	0.45	Rating **	U	Issue No.		10
LM End	0.45	Issue Type +	Ма	Location *		LS
Category Earthen Levee				GPS La	titud	e/Longitude
				Start		End
Item	Animal Co	ontrol		37.8187	53°	37.818753°
пеш				-121.38024	49 °	-121.380249°
DWR ID	DWR_RD0	001_01_s _ 201	6_10			

Comment Code

A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.

Inspector Comment

Backfill and compact levee slope with acceptable levee fill.



View of the large rodent hole on the landside levee slope.

LM Start	0.51	Rating **	M	Issue No.		5	
LM End	0.51	Issue Type +	Ма	Location *	LS		
Category Earthen Levee				GPS Latitude/Longitude			
Calegory				Start		End	
Item	Slope Sta	bility		37.8180	03°	37.818003°	
пеш				-121.3798	45 °	-121.379845°	
DWR ID DWR_RD0001_01_f _ 2015_5							

Comment Code

S1: Repair slope instability.

## Inspector Comment

About a 1 ft. vertical cut is observed at the landside levee toe. Repair the landside levee toe per O&M standards.

## Photo 1 of 1: FA\_2018\_RD0001\_23\_5\_20180906\_00004.jpg



View of the vertical cut at the landside levee toe.

Photo 1 of 1: FA\_2018\_RD0001\_23\_7\_20180906\_00005.jpg

	LM Start	0.52	Rating **	М	Issue No.		7	
	LM End	0.52	Issue Type +	Ma	Location *		LS	
Earthen Levee				GPS La	atitud	e/Longitude		
	Category				Start		End	
	Item	Erosion /	Bank Caving		37.8178	25°	37.817825	0
	item				-121.3798	11 °	-121.379811	0
	DWR ID	DWR RD0	001 01 s 201	6 7				

## Comment Code

E2 : Schedule repair of erosion site prior to the next inspection.

## Inspector Comment



View of the erosion on the landside levee slope.

* Location	** Rating		+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiancy Ob : Design & System Obsolescence En : Enforcement

# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	0.67	Rating **	U	Issue No.		15	
LM End	0.67	Issue Type +	Ma	Location *	LS		
Category	evee	GPS Latitude/Longitude					
Calegory	Category					End	
Item	Animal Co	ontrol		37.817047°		37.817047°	
пеш				-121.3823	42 °	-121.382342 °	
DWR ID	DWR ID DWR_RD0001_01_f _ 2016_15						
	Comment Code						

A1 : Exterminate rodents and backfill and compact or grout burrows.

#### Inspector Comment

Burrow entrance is about 18 inches by 10 inches.

# Photo 1 of 1 : FA\_2018\_RD0001\_23\_15\_20180906\_00012.jpg



View of the large rodent burrow in the landside levee slope.

LM Start	0.76	Rating **	U	Issue No.		4	
LM End	0.76	Issue Type +	Ма	Location *	LS		
Earthen Levee				GPS Latitude/Longitude			
Category			Start		End		
Animal Control				37.8158	81 °	37.815881 °	
пеш				-121.3827	04°	-121.382704°	
DWR ID	DWR_RD0	001_01_f _ 201	5_4				

### Comment Code

A1: Exterminate rodents and backfill and compact or grout burrows.

## Inspector Comment

Large burrow in the landside levee slope. Possible fox den. Cobwebs are visible in the hole. Fall 2016.

# Photo 1 of 1 : FA\_2018\_RD0001\_23\_4\_20180906\_00003.jpg



View of a large rodent hole on the landside levee slope.

LM Start	1.08	Rating **	M	Issue No.		3	
LM End	1.08	Issue Type +	Ма	Location *	LS		
Earthen Levee				GPS Latitude/Longitude			
Category				Start		End	
Slope Stability				37.81202	23°	37.812023°	
пеш				-121.38396	61 °	-121.383961 °	
DWR ID	DWR RD0	001 01 s 201	6 3				

## Comment Code

S3 : Repair the levee slope damaged by vehicle traffic and prevent access where possible.

## Inspector Comment

Repair slope damaged by vehicle by placing and compacting acceptable levee material.

## Photo 1 of 2: FA\_2018\_RD0001\_23\_3\_20180906\_00001.jpg



View of the landside slope damaged by farm equipment.

* Location	** Rating		+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiancy Ob : Design & System Obsolescence En : Enforcement

# Maintenance Issue Types Only, Levee Inspection Report By Mile - Fall 2018

# Reclamation District No. 0001 Union Island

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Old River	Right	1.14	10/09/2018 10/09/2018	Richard Willoughby

LM Start	1.08	Rating **	М	Issue No.	3 (cont)		
LM End	1.08	Issue Type +	Ма	Location *	LS		
Category Earthen Levee			GPS Latitude/Longitude				
Calegory				Start		End	
Item	Slope Stability			37.8120	23 °	37.812023°	
пеш				-121.383961 °		-121.383961 °	
DWR ID	DWR_RD0001_01_s _ 2016_3						
Comment Code							

S3 : Repair the levee slope damaged by vehicle traffic and prevent access where possible.

## Inspector Comment

Repair slope damaged by vehicle by placing and compacting acceptable levee material.



View of the ruts on the levee slope overgrown with vegetation.

LM Start	1.13	Rating **	М	Issue No.		19	
LM End	1.13	Issue Type +	Ma	Location *		LS	
Category Earthen Levee				GPS Latitude/Longitude			
Calegory				Start		End	
Trim / Thin Trees				37.8117	14°	37.811714°	
пеш				-121.3848	76°	-121.384876°	
DWR ID	DWR_RD0001_01_s _ 2018_19						

### Comment Code

T1 : Trim trees to at least five feet above ground level.

## Inspector Comment



Looking west at untrimmed tree at landward toe. (Spring 2018)